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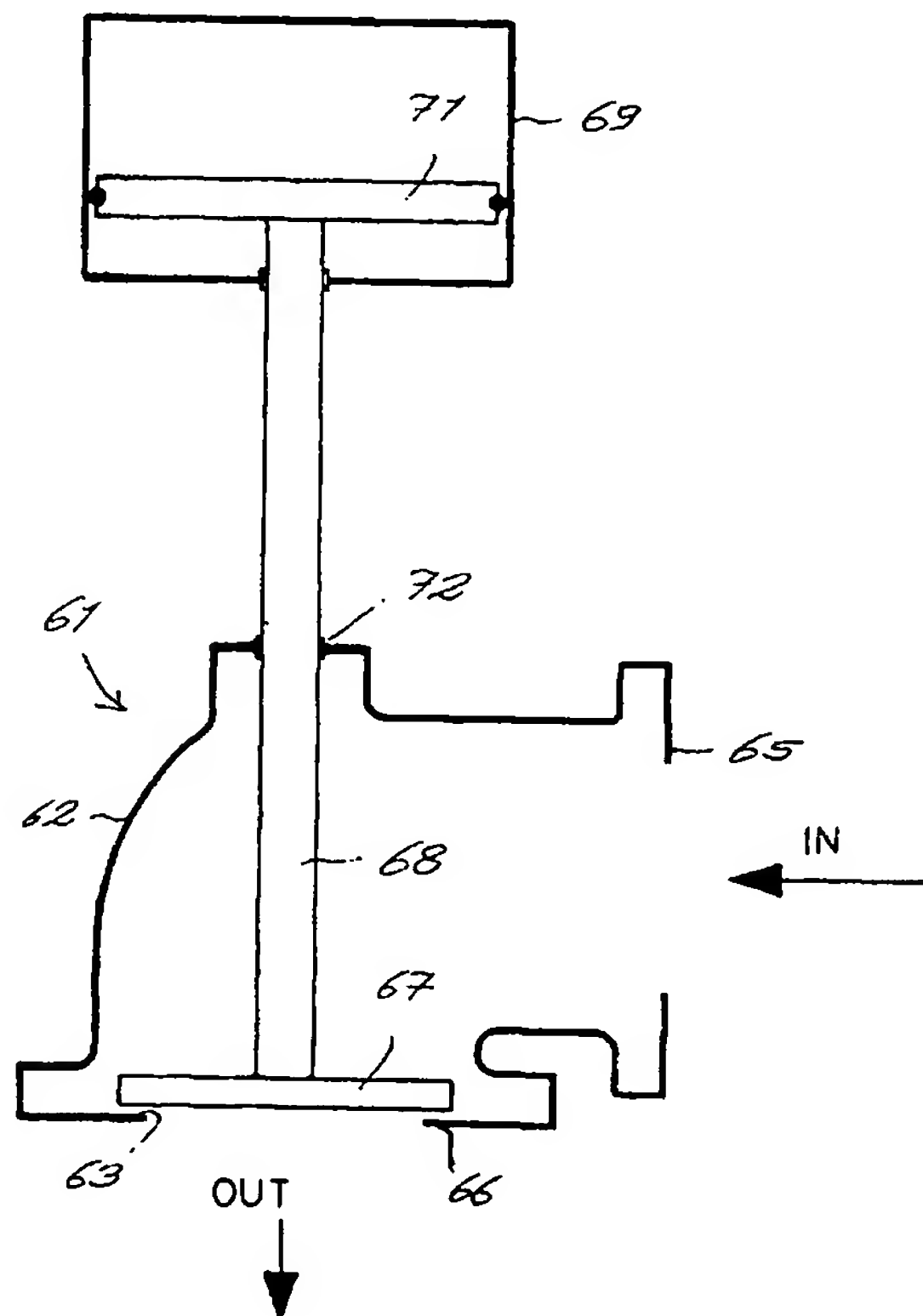
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[Continued on next page]

(54) Title: PRESSURE RELEASE ARRANGEMENTS, IN PARTICULAR FOR PRODUCT PROCESSING SYSTEM



(57) Abstract: A valve (61) for enabling release of pressurized steam from a pressure vessel has a displaceable closure member (67) which is maintained in its closed disposition by exposure to the pressure of the steam within the pressure vessel. The closure member (67) is displaced between its closed disposition and an open disposition by a double-acting actuator (69), suitably an air-driven piston/cylinder device, the closure member (67) being preferably mounted at one axial end of a spindle (68) extending between the closure member (67) and the actuator (69). The closure member (67) is suitably mounted for substantially metal-to-metal contact with a valve seat portion (63), without interposition of any sealing element, preferably for substantially vertical displacement between its closed and dispositions.

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TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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INTERNATIONAL SEARCH REPORT

Int. Application No.
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A23N7/00 F16K24/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A23N F16K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 811 279 A (VOGELI E) 21 May 1974 (1974-05-21) abstract; claims; figure 1	1-9
X	US 4 589 627 A (GROTLOH KARLHEINZ) 20 May 1986 (1986-05-20) abstract; claims; figure 1	1-9
A	WO 01/93704 A (BRODERICK MICHAEL ; OSENEY LTD (IE)) 13 December 2001 (2001-12-13) cited in the application abstract; claims 49-52; figures 8,9,15	11,13-18
A	US 4 064 794 A (KUNZ PAUL) 27 December 1977 (1977-12-27) the whole document	11,13
	-/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
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- "O" document referring to an oral disclosure, use, exhibition or other means
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- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

6 May 2004

Date of mailing of the international search report

03.09.2004

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No.
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3 164 181 A (PAUL KUNZ) 5 January 1965 (1965-01-05) the whole document	11, 13
A	----- EP 0 431 702 A (GOUDSCHE MACHINEFABRIEK BV) 12 June 1991 (1991-06-12) abstract; figure 1 -----	1, 11, 13

INTERNATIONAL SEARCH REPORT

ational application No.
PCT/IE2004/000003

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-11, 13-18

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-11, 13-18

a valve that is maintained in its closed disposition by exposure to the pressure inside the vessel to be sealed, and treatment system utilising such a valve

2. claim: 12

a product treatment system comprising a solids trap

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IE2004/000003

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Information on patent family members

International Application No
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EP 0431702	A	NO 905224 A	05-06-1991